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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/750,507	12/31/2003	Weipeng Paul Yan	1021-041US01	9232

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Shumaker & Sieffert, P.A.
1625 Radio Drive, Suite 300
Woodbury, MN 55125

EXAMINER
SAEED, USMAAN

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2166	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/750,507	YAN ET AL.
Office Action Summary	Examiner	Art Unit	
	USMAAN SAEED	2166	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 September 2008</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-11 and 34</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>1-11 and 34</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☒ The drawing(s) filed on <u>31 December 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date <u>6/19/2008 and 10/20/2008</u>.
4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application
6)☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on

9/26/2008 has been entered.

Information Disclosure Statement

2.   Applicants' Information Disclosure Statements filed on 06/19/2008 and

10/20/2008, have been received, entered into the record, and considered. See attached

PTO-1449.

Claim Rejections - 35 USC § 101

3.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

Claims 1-11 and 34 are rejected under 35 U.S.C. 101 as being directed to non-

statutory subject matter. The language of the claims raises a question as to whether the

claims are directed merely to an environment or machine which would result in a

practical application producing a concrete useful, and tangible result to form the basis of

statutory subject matter under 35 U.S.C. 101.

Claims 1-11 and 34 are rejected because the method claims do not qualify as a statutory process. These claims are not statutory because a process must be tied to another statutory class. Thus to qualify as a statutory process, the claims should positively recite the other statutory class to which it is tied, for example by identifying the apparatus that accomplished the method steps.

To expedite a complete examination of the instant application the claims rejected under U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of application amending these claims to place them within the four categories of invention.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g)

prior art under 35 U.S.C. 103(a).

Claims 1-8, and 34 are rejected under 35 U.S.C 103(a) as being unpatentable

over **Mclean et al. (Mclean** hereinafter) (U.S. PGPUB No. 2003/0018506) in view of

Loeb et al. (Loeb hereinafter) (U.S. Patent No. 6,725,287) further in view of

Richardson et al. (Richardson hereinafter) (U.S. Patent No. 6,292,803).

With respect to claim 1, **Mclean** teaches **a method for dynamically initializing**

a view for a streaming database system, comprising:

   "accessing at least one stream of events in real time" as a series of related

events are referred to herein as an "event stream." The database 104 may store

parameters relating to events, benefits and value streams in a matrix referred to herein

as the event matrix (**Mclean** Paragraph 0079).

   "materializing a view from said stream, wherein said view is dynamically

defined from said stream of events received from said streaming database

system" as FIG. 11 illustrates an event matrix data structure 400 for storing

assumptions (e.g., assumed variables) and their related events in accordance with the

present invention when operating in value creation mode. As stated previously, the

event matrix 400 stored in the database 104 (FIG. 1A) is a relational database in which

assumptions, events, and their related probabilities are collected for both financial and

non-financial value streams (**Mclean** Paragraph 0164 and 0245).

"**producing a sequence of view snapshots from said materialized view,
wherein each view snapshot in said sequence corresponds to an individual event
within said stream**" as FIGS. 25A-C are respective diagrammatic views of object
records that may be stored in the above described object database module 902. FIG.
25A is a diagrammatic view of a customer object record 908 that may be stored in the
object database 902 (**Mclean** Paragraph 0246). FIG. 25B is a diagrammatic view of a
product object record 909 that may be stored in the object database 902 (**Mclean**
Paragraph 0247). FIG. 25C is a diagrammatic view of a financial object record 910 that
may be stored in the object database 902 (**Mclean** Paragraph 0248).

Examiner interprets the diagrammatic views as sequence of view snapshots.
These diagrammatic views are being produced from the event matrix 901 which stores
events for a particular stream. Examiner interprets these diagrammatic views as
sequenced because the customer A, product A, and payment are sequenced past
events according to the dates they occurred on.

"**storing said sequence of view snapshots**" as respective diagrammatic views
of object records that may be stored in the above described object database module
902 (**Mclean** Paragraph 0246).

"**using said sequence of view snapshot to generate an initialized view that
incorporates new events of said stream**" as if a previously anticipated event occurs,
then the related assumption may be modified in the matrix 400. The assumption view is
shown in FIG. 11. In an "event view," the system 100 focuses first on events and, then,
for each event shows the "affected assumptions." The event view of the event matrix

400 is shown in FIG. 13 (**Mclean** Paragraph 00164 & 0165). Examiner interprets the
modified matrix 400 in fig 13 as initialized view.

Further Mclean teaches the system 100 (FIG. 1A) which can be configured such
that an updated version of any selected outcome display report can be created
whenever an event takes place. That is, the process of applying the appropriate
event/object filter and applying the calculation engine can be made to be continuous,
updating the result based on each new event. Consequently, the system 100 can
therefore be described as capable of producing continuously updated value realization
outcome displays (**Mclean** Paragraph 0267).

Mclean teaches the elements of claim 1 as noted above but does not explicitly
teaches **"at least one stream of event is received as output from a streaming
database system" and "external to the database system and at least one stream
of events is received from the steaming database" and "wherein said generating
of said initialized view comprises calculating a view state of said initialized view
by retrieving ad replaying said sequence of view snapshots."**

However, **Loeb** teaches **"at least one stream of event is received as output
from a streaming database system" and "external to the database system and at
least one stream of events is received from the steaming database"** as the engine
40 processes input events 30 from a variety of data sources, including live streams,
databases, and other information engines (**Loeb** Col 4, Lines 7-9). Examiner interprets
the input to the engine as an output from streaming database which is being fed as an
input to the engine 40. The engine 40 is external to the streaming database system.
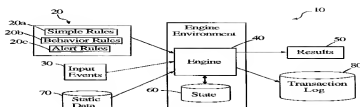
FIGURE 1

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because **Loeb's** teaching would have allowed **Mclean** to provide a method and system that captures streaming data and avoids continual retrieval and rehandling and centralized rule management capability that provides powerful reporting, validation, and administration functions.

Mclean and Loeb teach the elements of claim 1 as noted above but do not explicitly teach **"wherein said generating of said initialized view comprises calculating a view state of said initialized view by retrieving ad replaying said sequence of view snapshots."**

However, **Richardson** discloses **"wherein said generating of said initialized view comprises calculating a view state of said initialized view by retrieving ad**

replaying said sequence of view snapshots" as (Richardson Col 2, Lines 55-67 to

Col 3, Lines 1-15).

It would have been obvious to one of ordinary skill in the art at the time the

invention was made to combine the teachings of the cited references because

Richardson's teaching would have allowed **Mclean and Loeb** to provide the views

through an efficient event driven architecture and to provide updates to the views and

allow viewing of historical states, as well as very granular specification of desired

updates regarding current states while efficiently utilizing resources.

Claim 34 is same as claim 1 and is rejected for the same reasons as applied

hereinabove.

With respect to claim 2, **Mclean** teaches **"the method as recited in Claim 1**

wherein said initialized view comprises a plurality of row data structures" as

Figure 13 (Mclean Figure 13).

With respect to claim 3, **Mclean** teaches **"the method of Claim 1, wherein said**

view is a stateful view resulting from a stateful stream, said stateful view having a

bounded number of rows" as Figures 25 A-C (Mclean Figure 25 A-C).

With respect to claim 4, **Mclean** teaches **"the method of Claim 3, wherein each**

view snapshot of said stateful view comprise a state of said stateful view

including events existent at said materializing of said stateful view" as FIGS. 25A-C are respective diagrammatic views of object records that may be stored in the above described object database module 902. FIG. 25A is a diagrammatic view of a customer object record 908 that may be stored in the object database 902 (**Mclean** Paragraph 0246). FIG. 25B is a diagrammatic view of a product object record 909 that may be stored in the object database 902 (**Mclean** Paragraph 0247). FIG. 25C is a diagrammatic view of a financial object record 910 that may be stored in the object database 902 (**Mclean** Paragraph 0248). These view snapshots of stateful views include events from the materialized view/matrix. **"and events accessed after said materializing of said stateful view at a particular time"** as figure 11 and 13 (Figure 11 & 13). These figures show materialized views at time t1 and t.

With respect to claim 5, **Mclean** teaches **"the method of Claim 2, wherein said view is a stateless view resulting from a stateless stream, said stateless view having an unbounded number of rows"** as Figure 13 (**Mclean** Figure 13).

With respect to claim 6, **Mclean** teaches **"the method of Claim 5, wherein each of said view snapshots of said stateless view comprise a state of said stateless view including events existent at said materializing of said stateless view, including a last event processed during said materializing of said stateless view"** as Figure 13 (**Mclean** Figure 13). Stateless view in figure 13 comprises events from

materializing of view in figure 11. Examiner interprets the event 1-3 as last event to be
processed in the view.

With respect to claim 7, **Mclean** teaches **"the method of Claim 1, further
comprising: processing said sequence of view snapshots by maintaining a
sequence of a plurality of preceding current view snapshots"** as Figure 23 (**Mclean**
Figure 23). Object database 902 contains plurality of snapshots. Examiner interprets
past events from event matrix 901 containing preceding view snapshots in the database
902.

With respect to claim 8, **Mclean** teaches **"the method of Claim 7, further
comprising: applying a batch set of events to said processing of said sequence
of view snapshots, wherein each event of said batch set has a corresponding
view snapshots in said sequence"** as Figure 24 A-B & 25 A-C (**Mclean** Figure 24 A-B
& 25 A-C). Examiner interprets 906a future events and 906b past events in figure 24A
as batch of events. These events are being applied to and has a corresponding view
snapshot as shown in figures 25 A-C.

5.   Claims 9-10 are rejected under 35 U.S.C 103(a) as being unpatentable over
Mclean et al. (U.S. PGPUB No. 2003/0018506) in view of **Loeb et al.** (U.S. Patent No.
6,725,287) as applied to claims 1-8, and 34 above in view of **Zwilling et al.** (**Zwilling**
hereinafter) (U.S. PGPub No. 2004/0267828).

With respect to claim 9, **Mclean** teaches **"the method of Claim 1, wherein said generating of said initialized view is configured to accomplish a recovery of a view state"** as FIG. 3 illustrates a flow diagram 300 showing determination of outcomes in value creation mode based upon different assumptions. For example, the CPU 102 can be controlled to determine the outcomes 226 (FIG. 2) from the groups of scenarios 220 (FIG. 2) in accordance with the flow diagram 300 of FIG. 3. In a state 302, data relevant to the various scenarios may be retrieved from the database 104 (FIG. 1A) to the CPU 102 (FIG. 2). Then, in a state 304, the data for the assumptions and their related events may be assembled into scenarios (**Mclean** Paragraph 0092).

Mclean teaches the elements of claim 9 as noted above but does not explicitly teaches **"recovery of a view."**

However, **Zwilling** discloses **"recovery of a view"** as Recovering a Database View. When the database server restarts after it is shut down (either normally or abnormally), the database view must be reinitialized. In order to do so, the side page tables, which have been stored in memory, must be reinitialized (**Zwilling** Paragraph 0057).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because **Zwilling's** teaching would have allowed **Mclean and Loeb** to provide a ways to view a database which can be created quickly, and is persistent after a database server restart.

With respect to claim 10, **Mclean** teaches **"the method of Claim 1, wherein said generating of said initialized view is configured to accomplish a re-enabling of a view after a disabling of a view"** as if a previously anticipated event occurs, then the related assumption may be modified in the matrix 400. The assumption view is shown in FIG. 11. In an "event view," the system 100 focuses first on events and, then, for each event shows the "affected assumptions." The event view of the event matrix 400 is shown in FIG. 13 (Mclean Paragraph 00164 & 0165). Examiner interprets the modified matrix 400 in fig 13 as initialized view.

Mclean teaches the elements of claim 10 as noted above but does not explicitly teach **"re-enabling of a view after a disabling of a view."**

However, **Zwilling** discloses **"re-enabling of a view after a disabling of a view"** as Recovering a Database View. When the database server restarts after it is shut down (either normally or abnormally), the database view must be reinitialized. In order to do so, the side page tables, which have been stored in memory, must be reinitialized (**Zwilling** Paragraph 0057). Examiner interprets the reinitialized view as re-enabled view.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because **Zwilling's** teaching would have allowed **Mclean and Loeb** to provide a ways to view a database which can be created quickly, and is persistent after a database server restart.

6.   Claim 11 is rejected under 35 U.S.C 103(a) as being unpatentable over **Mclean et al.** (U.S. PGPUB No. 2003/0018506) in view of **Loeb et al.** (U.S. Patent No. 6,725,287) as applied to claims 1-8, and 34 above in view of **Homayoun Yousefi'zadeh (Homayoun** hereinafter) (U.S. PGPub No. 2004/0030739).

        With respect to claim 11, **Mclean** teaches **"the method of Claim 1, wherein said generating of said initialized view is configured to accomplish a load balancing of a view maintenance process"** as if a previously anticipated event occurs, then the related assumption may be modified in the matrix 400. The assumption view is shown in FIG. 11. In an "event view," the system 100 focuses first on events and, then, for each event shows the "affected assumptions." The event view of the event matrix 400 is shown in FIG. 13 (Mclean Paragraph 00164 & 0165). Examiner interprets the modified matrix 400 in fig 13 as initialized view.

        Mclean teaches the elements of claim 11 as noted above but does not explicitly teaches, **"to accomplish a load balancing of a view maintenance process."**

        However, **Homayoun** discloses **"to accomplish a load balancing of a view"** as to one of said multiple database servers being based on a metric such as a load balancing scheme along with a remote replication scheme to preserve the respective view of data of said multiple database servers (**Homayoun** Paragraph 0010).

        It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the cited references because **Homayoun's** teaching would have allowed **Mclean and Loeb** to provide specific load-

balancing techniques for assigning queries to respective multiple database servers 24,

to, and to balance respective loads of the multiple database servers 24.

Response to Arguments

7.   Applicant's arguments filed 9/26/2008 have been fully considered but they are

not persuasive.

        In these arguments applicant relies on the amended claims and not the original

ones.

        Claims must be given the broadest reasonable interpretation during examination

and limitations appearing in the specification but not recited in the claim are not read

into the claim (See M.P.E.P. 2111 [R-I]).

        Applicant argues that **Mclean** does not teach or suggest **"producing a

sequence of view snapshots from said materialized view, wherein each view

snapshot in said sequence corresponds to an individual event within said

stream."**

        In response to the preceding arguments examiner respectfully submits that

Mclean teaches **"producing a sequence of view snapshots from said materialized

view, wherein each view snapshot in said sequence corresponds to an individual

event within said stream"** as FIGS. 25A-C are respective diagrammatic views of

object records that may be stored in the above described object database module 902.

FIG. 25A is a diagrammatic view of a customer object record 908 that may be stored in

the object database 902 (**Mclean** Paragraph 0246). FIG. 25B is a diagrammatic view of

a product object record 909 that may be stored in the object database 902 (**Mclean**

Paragraph 0247). FIG. 25C is a diagrammatic view of a financial object record 910 that

may be stored in the object database 902 (**Mclean** Paragraph 0248).

Examiner interprets the diagrammatic views as sequence of view snapshots.

These diagrammatic views are being produced from the event matrix 901 which stores

events for a particular stream. Examiner interprets these diagrammatic views as

sequenced because the customer A, product A, and payment are sequenced past

events according to the dates they occurred on.

Arguments regarding **"wherein said generating of said initialized view

comprises calculating a view state of said initialized view by retrieving ad

replaying said sequence of view snapshots"** are moot in view of new grounds of

rejection. See above rejections for response to the arguments.

Contact Information

8.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to USMAAN SAEED whose telephone number is

(571)272-4046. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Hosain Alam can be reached on (571)272-3978. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Usmaan Saeed
Patent Examiner
Art Unit: 2166

Hosain Alam   US
Supervisory Patent Examiner   January 4, 2009

/Hosain T Alam/

Supervisory Patent Examiner, Art Unit 2166